REMARKS

The examiner objected to claim 17 because of informalities. Applicant has amended claim 17 to recite "a second robot."

The examiner rejected Claims 1-2 and 13-15 under 35 U.S.C. 102(b) as being anticipated by Choy et al., PCT Publication No. WO00/59581. The examiner stated:

> **(Claims 1 and 13) Choy et al. discloses a virtual reality encounter system and method comprising, a humanoid robot having tactile sensors positioned along the exterior of the robot (page 3, lines 3-11 and page 10, lines 25-33), the sensors sending tactile signals to a communications network (page 12, lines 16-34 and page 13, lines 18-19); and a body suit having tactile actuators (page 10, lines 5-23), the actuators receiving the tactile signals from the communications network (page 10, lines 5-23 and page 4, lines 33-37).**

Claim 1 is distinct over Choy since Choy neither describes nor suggests at least ... a body suit .... The examiner contends that Choy teaches a body suit at Page 10, lines 5-23. No such teaching however is found there. Rather, at that passage Choy mentions "Cybertouch Data Glove for both hands." The Data Glove however is not the claimed body suit. Claim 1 further distinguishes since nowhere does Choy describe that the humanoid robot has tactile sensors positioned along the exterior of the robot and that the sensors send tactile signals to a communications network and the body suit has tactile actuators that receive the tactile signals from the communications network. Rather, Choy describes a scenario in which the glove worn by the user is used to send signals over a network to cause the robot to respond. In Applicant's claimed invention, the body suit can be, for example, worn by a user, such that the user can experience tactile sensations impinged on the robot. Accordingly, claim 1 is allowable over Choy.

Claim 2 is allowable at least for the reasons discussed in claim 1. Furthermore it is noted that Choy does not describe a body suit having motion sensors.

The examiner rejected claims 4-8, 12, 16, 17 and 21 under 35 U.S.C. 103(a) as being unpatentable over Choy et al. in view of Abbasi, US Patent No. 6,786,863. The examiner stated:

(Claim 4) Choy et al. discloses the virtual reality system previously applied to claim 1, further Choy et al. discloses wherein the robot has life-like features (Figure 2), comprising a body (Figure 2 and page 10, line 34-page 11, line 5). Choy et al. does not disclose a camera or a microphone. However, Abbasi teaches a remote physical encounter system comprising a mechanical surrogate with external sensory devices including a camera and a microphone (Column 4, lines 38-42); wherein the camera sends video signals to a communications network (Column 2, lines 54-62); and the microphone sends audio signals to the communications network (Column 2, lines 63-67).

Claim 4 is distinct over the combination of references, since no combination of Choy with Abbasi describes or suggests that ... the robot comprises a camera coupled to the body, the camera for sending video signals to the communications network and a microphone coupled to the body, the microphone for sending audio signals to the communications network.

Abbasi does not disclose that the robot comprises a body and comprises a camera coupled to the body, the camera for sending video signals to the communications network and a microphone coupled to the body, the microphone for sending audio signals to the communications network. Abbasi discloses that: "Each computer interfaces to a plurality of external sensory devices including, but not limited to a video camera (35A and 35B), a microphone (40A and 40B), and a speaker (45A and 45B). These sensory devices can be used optionally, collectively or in any combination." But nowhere are they disclosed as part of a body.

Applicant also contends that the combination of Choy with Abbasi is not suggested since Choy is not directed to sending signals of any sort from the robot to the user. The examiner contends that the combination of references is suggested because "... to combine the system of Choy et al. with the teachings of Abbasi because (sic) teaches that the use of sight and sound is important for easy communication and as Choy et al. suggests the combination of touch, audio and visual stimulation is a powerful and effective means of communication (Column 1, lines 19-22). Applicant contends that this motivation is vague and disconnected and thus, inadequate because it does not address the deficiencies in Choy, namely the absence of any suggestion in Choy to send signals of any sort from the robot to the user and the absence of the body suit features to receive the signals from the network.

Claim 5 requires a set of goggles including a display to render the video signals received from the camera and a transducer to transduce the audio signals received from the microphone.

The examiner considers that the combination of Choy with Abbasi, discloses: "a virtual reality headset linked to the computer system to provide and display video signals and auditory signals to a user (page 3, line 32-page 4, line 4 and page 5, line 29-page 9, line 12) (Choy) and conveying video information from a video camera and auditory information from a microphone attached to a first computing device to a second computing device (Figure 1) (Abassi). Applicant contends however that the combination does not disclose "a set of goggles" nor does the combination disclose or suggest a set of goggles including a display to render the video signals received from the camera and a transducer to transduce the audio signals received from the microphone. Therefore no combination of these references suggests the features of claim 5.

Claim 6, which recites that the system of claim 5 has the robot is at a first location and the set of goggles at a second location and the system further includes a second humanoid robot in the second location, the second robot having a second microphone and a second camera; and a second set of goggles to receive the video signals from the first camera and a second earphone to receive the audio signals from the first microphone, is distinct over the combination of references. The examiner states:

> **Choy et al. discloses wherein the virtual encounter system is used to connect two users in different locations (page 2, lines 18-21) and wherein one user has one avatar and a second user has a second avatar and the movements of each avatar are controlled directly by the sensed movements of the respective users (page 16, lines 7-16), wherein the users use headsets to receive visual and audio signals (page 5, line 29-page 7, line 2). Abbasi further teaches a remote physical encounter system comprising a second mechanical surrogate with external sensory devices including a second camera and a second microphone (Figure 1).**

The examiner contends that Choy et al. discloses "...wherein one user has one avatar and a second user has a second avatar and the movements of each avatar are controlled directly by the sensed movements of the respective users (page 16, lines 7-16) ..." Applicant contends however that this does not suggest the claimed features namely, that the humanoid robot has the sensors sending tactile signals to a body suit having tactile actuators via the communications network as in independent claim 1, or that a second humanoid robot in the second location has a second microphone and a second camera and a second set of goggles to receive the video signals from the first camera and a second earphone to receive the audio signals from the first

microphone. Applicant further contends that Abbasi's "remote physical encounter system does not cure the deficiencies in the combined references.

As for Applicant's claim 16, claim 16 requires ... sending audio signals ... produced from a microphone coupled to the robot and sending video signals ... produced from a camera coupled to the robot. Claim 16 also requires rendering the video signals received from the communications network using a display device embedded in a set of goggles and transducing the audio signals received from the communications network using a transducer embedded in the set of goggles. As discussed above Choy does not suggest any of these claimed features and Abbasi does not serve to cure the deficiencies in Choy.

Claim 17 further limits claim 16 and requires sending audio signals to the communications network from a second microphone coupled to a second robot having life-like features, sending video signals to the communications network from a second camera coupled to the second robot, rendering the video signals ... onto a monitor coupled to a second set of goggles, and transducing the audio signals ... using a second transducer embedded in the second set of goggles. Claim 17 enables two users to have a virtual encounter in which, e g., one user interacts with a first robot and that interaction is sensed by the other user wearing the body suit. Similarly, the one user can see and hear the other user through the audio and video signals transmitted over the network and visa versa. Accordingly, the combination of Choy with Abbasi does not suggest the features of claim 17.

The examiner also rejected Claims 9-11 and 18-20 under 35 U.S.C. 103(a) as being unpatentable over Choy et al. in view of Abbasi as applied to claims 5 and 16 above, and further in view of Yee et al., US Patent No. 6,016,385.

For at least the reasons discussed in their respective base claims, claims 9-11 and 18-20 are allowable over Choy et al. in view of Abbasi, and further in view of Yee et al., US Patent No. 6,016,385, since Yee et al. is not seen as curing the deficiencies of the combination of Choy and Abbasi.

Enclosed is a check in the amount of $510 for the Petition for Extension of Time. No other fee is believed due. If a fee is due please that fee and any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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